

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
LABORATORY SERVICES PROGRAM

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ANSCHUTZ Mining
CORPORATION - I.

Preliminary Assessment/Site Investigation Report
Anschutz Mining Corporation
Fredericktown, Missouri
February 25, 1986

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INTRODUCTION

The Anschutz Mining Corporation Site is a former mining site in Fredericktown, Missouri. The Poplar Bluff Regional Office has received reports of transformer oils being dumped at the site. This, along with an aerial surveillance conducted on November 20, 1985, which revealed the presence of two ponds containing a black liquid, resulted in the Waste Management Program requesting that sampling be performed.

On February 25, 1986, sampling was performed by Sam Brenneke and Bill Johnson of the Laboratory Services Program. Other Department of Natural Resources employees present at the time of sampling were Rick Roberts and Greg Pavely of the Poplar Bluff Regional Office and Joe Rowe of the Waste Management Program.

METHODS

Liquid samples were collected using a separate clean glass jar as a dipper for each sample. The liquid was placed in the appropriate containers and preserved on site. Soil and sediment samples were collected using a stainless steel spoon to place the soil or sediment into the appropriate container.

All samples were placed on ice to aid in preservation until analyses could be completed.

The cyanide analyses of soil samples were performed by Wilson Laboratories in Salina, Kansas with all other analyses being performed by the Department of Natural Resources Laboratory in Jefferson City, Missouri.

OBSERVATIONS

(See Appendix A for site map and sample locations).

The black ponds which were thought to be oil during the aerial surveillance contained only a black water. No oil was observed in either pond. pH measurements of the ponds were performed using pH paper and were determined to be in the range of 1.5-2.0. The dam between the ponds had been cut as well as the berm on pond #2 allowing both ponds to discharge to the site during heavy rains. There were no discharges at the time of sampling.

The small creek that leads off the Anschutz Mining Site was observed to be covered with a light blue-green sludge-like material.



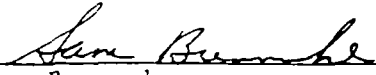
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Preliminary Assessment/Site Investigation Report
Anschutz Mining Corporation
Fredericktown, Missouri
February 25, 1986

RESULTS

The analytical results for the samples collected February 25, 1986, are attached as Appendix B.

Submitted by

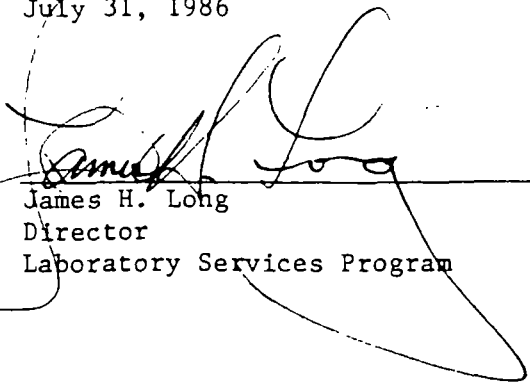


Sam Brenneke
Environmental Emergency Specialist
Field Services Section
Laboratory Services Program

Date

July 31, 1986

Approved by



James H. Long
Director
Laboratory Services Program

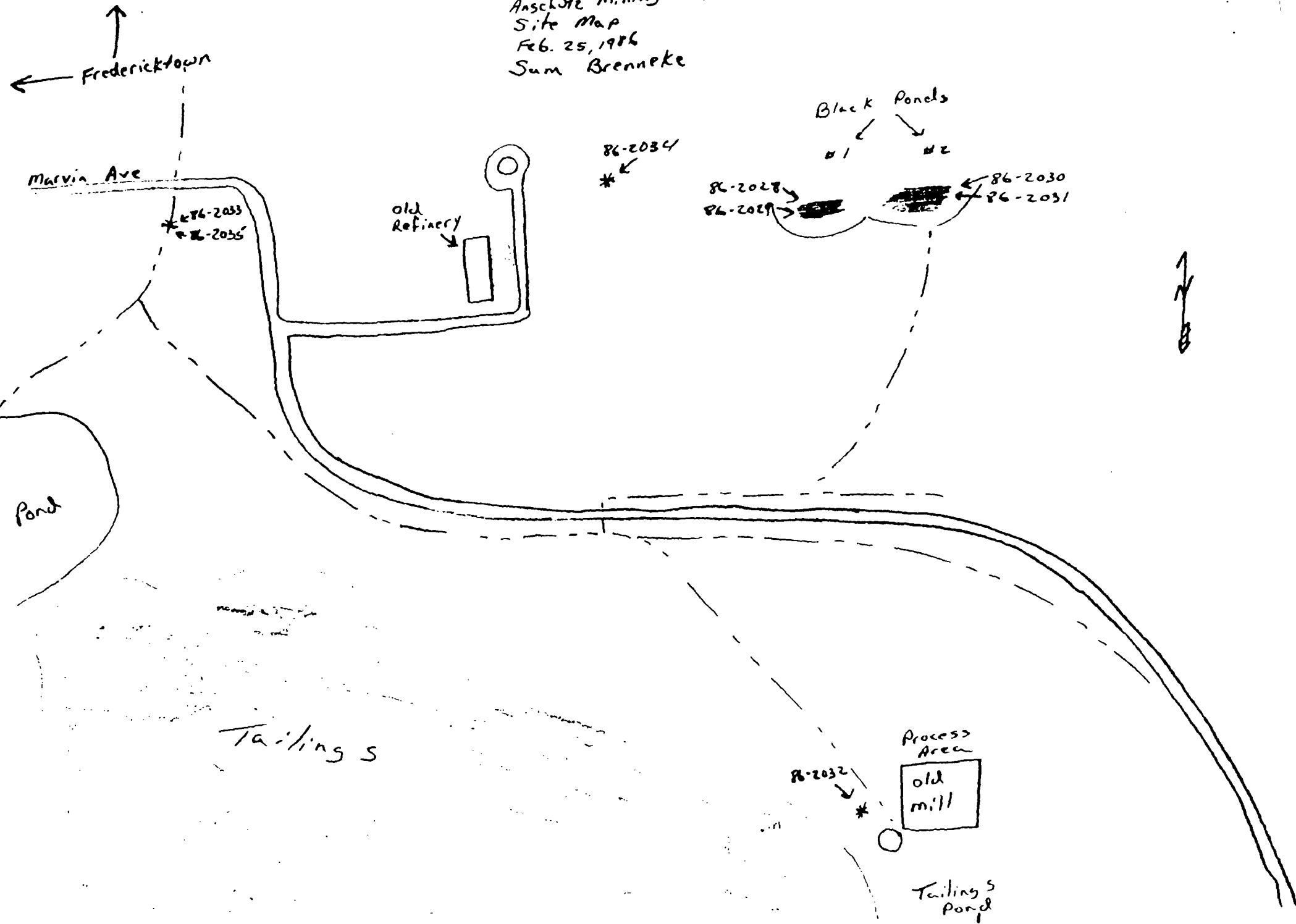
cc: Burt McCullough, Waste Management Program
James Burris, Regional Administrator, Poplar Bluff Regional Office

APPENDIX A

SITE MAP AND SAMPLE LOCATIONS

Preliminary Assessment/Site Investigation Report
Anschutz Mining Corporation
Fredericktown, Missouri
February 25, 1986

Appendix A
Anschote Mining Corp.
Site Map
Feb. 25, 1986
Sam Brenneke



APPENDIX B

ANALYTICAL RESULTS

Preliminary Assessment/Site Investigation Report
Anschutz Mining Corporation
Fredericktown, Missouri
February 25, 1986

LABORATORY SERVICES PROGRAM
RESULT OF SAMPLE ANALYSIS

Sample No. 86-2028

Reported to: SAM BRENNEKE
Affiliation: EER

Date: 6/11/86
Project Code: 3535/3000

Sample Description:
ANSCHUTZ MINING CO.
GRAB SAMPLE FROM BLACK POND #1, WATER SAMPLE

Collected by: SAM BRENNEKE
Affiliation: EER

Date: 02/25/86

<u>PARAMETERS</u>	<u>RESULTS</u>
TOTAL SILVER	40 UG/L
TOTAL ARSENIC	NO RESULT
COMMENTS : MATRIX INTERFERENCE	
TOTAL BARIUM	<100 UG/L
COMMENTS : INTERFERENCE	
CYANIDE	<0.05 MG/L
TOTAL CADMIUM	280 UG/L

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Sample no. 86-2028
Date 6/11/86

<u>PARAMETERS</u>	<u>RESULTS</u>
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TOTAL CHROMIUM	270 UG/L
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TOTAL MERCURY	<0.5 UG/L
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TOTAL LEAD	1300 UG/L
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TOTAL SELENIUM	NO RESULT
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COMMENTS : MATRIX INTERFERENCE

PCB-1016	< 1.0 ug/Kg
PCB-1221	< 1.0 ug/Kg
PCB-1232	< 1.0 ug/Kg
PCB-1242	< 1.0 ug/Kg
PCB-1248	< 1.0 ug/Kg
PCB-1254	< 1.0 ug/Kg
PCB-1260	< 1.0 ug/Kg

LABORATORY SERVICES PROGRAM
RESULT OF SAMPLE ANALYSIS

Sample No. 86-2029

Reported to: SAM BRENNEKE
Affiliation: EER

Date: 6/03/86
Project Code: 3535/3000

Sample Description:
ANSCHUTZ MINING CO.
GRAB SAMPLE FROM BLACK POND #1, SEDIMENT SAMPLE

Collected by: SAM BRENNEKE
Affiliation: EER

Date: 02/25/86

<u>PARAMETERS</u>	<u>RESULTS</u>
TEP SILVER	<2500 UG/L
TEP ARSENIC	<2500 UG/L
TEP BARIUM	<10000 UG/L
CYANIDE	<0.01 MG/L
COMMENTS : ANALYZED BY WILSON LABORATORIES	
TEP CADMIUM	<500 UG/L
TEP CHROMIUM	<2500 UG/L

Page 2
Sample no. 86-2029
Date 6/03/86

PARAMETERS

RESULTS

TEP MERCURY

<100 UG/L

TEP LEAD

<2500 UG/L

TEP SELENIUM

<2500 UG/L

PCB-1016

< 1.0 ug/Kg

PCB-1221

< 1.0 ug/Kg

PCB-1232

< 1.0 ug/Kg

PCB-1242

< 1.0 ug/Kg

PCB-1248

< 1.0 ug/Kg

PCB-1254

< 1.0 ug/Kg

PCB-1260

< 1.0 ug/Kg

LABORATORY SERVICES PROGRAM
RESULT OF SAMPLE ANALYSIS

Sample No. 86-2030

Reported to: SAM BRENNEKE
Affiliation: EER

Date: 6/04/86
Project Code: 3535/3000

Sample Description:
ANSCHUTZ MINING CO.
GRAB SAMPLE FROM BLACK POND #2, WATER SAMPLE

Collected by: SAM BRENNEKE
Affiliation: EER

Date: 02/25/86

PARAMETERS	RESULTS
TOTAL SILVER	60 UG/L
TOTAL ARSENIC	1800 UG/L
TOTAL BARIUM	<100 UG/L
COMMENTS : INTERFERENCE	
CYANIDE	<0.05 MG/L
TOTAL CADMIUM	320 UG/L
TOTAL CHROMIUM	330 UG/L

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Sample no. 86-2030
Date 6/04/86

<u>PARAMETERS</u>	<u>RESULTS</u>
TOTAL MERCURY	<0.5 UG/L
TOTAL LEAD	1400 UG/L
TOTAL SELENIUM	NO RESULT
COMMENTS : MATRIX INTERFERENCE	
PCB-1016	< 1.0 ug/Kg
PCB-1221	< 1.0 ug/Kg
PCB-1232	< 1.0 ug/Kg
PCB-1242	< 1.0 ug/Kg
PCB-1248	< 1.0 ug/Kg
PCB-1254	< 1.0 ug/Kg
PCB-1260	< 1.0 ug/Kg

LABORATORY SERVICES PROGRAM
RESULT OF SAMPLE ANALYSIS

Sample No. 86-2031

Reported to: SAM BRENNEKE
Affiliation: EER

Date: 6/03/86
Project Code: 3535/3000

Sample Description:
ANSCHUTZ MINING CO.
GRAB SAMPLE FROM BLACK POND #2, SEDIMENT SAMPLE

Collected by: SAM BRENNEKE
Affiliation: EER

Date: 02/25/86

PARAMETERS	RESULTS
TEP SILVER	<2500 UG/L
TEP ARSENIC	<2500 UG/L
TEP BARIUM	<10000 UG/L
CYANIDE	0.01 MG/L
COMMENTS : ANALYZED BY WILSON LABORATORIES	
TEP CADMIUM	<500 UG/L
TEP CHROMIUM	<2500 UG/L

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Sample no. 86-2031
Date 6/03/86

PARAMETERS

RESULTS

TEP MERCURY

<100 UG/L

TEP LEAD

<2500 UG/L

TEP SELENIUM

<2500 UG/L

PCB-1016

< 1.0 ug/Kg

PCB-1221

< 1.0 ug/Kg

PCB-1232

< 1.0 ug/Kg

PCB-1242

< 1.0 ug/Kg

PCB-1248

< 1.0 ug/Kg

PCB-1254

< 1.0 ug/Kg

PCB-1260

< 1.0 ug/Kg

LABORATORY SERVICES PROGRAM
RESULT OF SAMPLE ANALYSIS

Sample No. 86-2032

Reported to: SAM BRENNEKE
Affiliation: EER

Date: 4/08/86
Project Code: 3535/3000

Sample Description:
ANSCHUTZ MINING CO.
SOIL SAMPLE FROM PROCESS AREA CENTER OF SITE

Collected by: SAM BRENNEKE
Affiliation: EER

Date: 02/25/86

PARAMETERS	RESULTS
TEP CADMIUM	<500 UG/L
CYANIDE	<0.01 MG/L
COMMENTS : ANALYZED BY WILSON LABORATORIES	
TEP SILVER	<2500 UG/L
TEP ARSENIC	<2500 UG/L
TEP CHROMIUM	<2500 UG/L
TEP LEAD	5800 UG/L
TEP BARIUM	<10000 UG/L
TEP MERCURY	<100 UG/L
TEP SELENIUM	<2500 UG/L

LABORATORY SERVICES PROGRAM
RESULT OF SAMPLE ANALYSIS

Sample No. 86-2033

Reported to: SAM BRENNEKE
Affiliation: EER

Date: 7/17/86
Project Code: 3535/3000

Sample Description:
ANSCHUTZ MINING CO.
SOIL SAMPLE FROM DRAINAGE BELOW MINING CO.

Collected by: SAM BRENNEKE
Affiliation: EER

Date: 02/25/86

<u>PARAMETERS</u>	<u>RESULTS</u>
TEP SILVER	<2500 UG/L
TEP ARSENIC	<2500 UG/L
TEP BARIUM	<10000 UG/L
CYANIDE	0.04 MG/L
COMMENTS : ANALYZED BY WILSON LABORATORIES	
TEP CADMIUM	<500 UG/L
TEP CHROMIUM	<2500 UG/L

Page 2
Sample no. 86-2033
Date 7/17/86

PARAMETERS

RESULTS

TEP MERCURY

<100 UG/L

TEP LEAD

28000 UG/L

TEP SELENIUM

<2500 UG/L

PCB-1016

< 1.0 ug/Kg

PCB-1221

< 1.0 ug/Kg

PCB-1232

< 1.0 ug/Kg

PCB-1242

< 1.0 ug/Kg

PCB-1248

< 1.0 ug/Kg

PCB-1254

240 ug/Kg

PCB-1260

< 1.0 ug/Kg

LABORATORY SERVICES PROGRAM
RESULT OF SAMPLE ANALYSIS

Sample No. 86-2034

Reported to: SAM BRENNEKE
Affiliation: EER

Date: 6/03/86
Project Code: 3535/3000

Sample Description:
ANSCHUTZ MINING CO.
BACKGROUND SOIL

Collected by: SAM BRENNEKE
Affiliation: EER

Date: 02/25/86

<u>PARAMETERS</u>	<u>RESULTS</u>
TEP SILVER	<2500 UG/L
TEP ARSENIC	<2500 UG/L
TEP BARIUM	<10000 UG/L
CYANIDE	0.10 MG/L
COMMENTS : ANALYZED BY WILSON LABORATORIES	
TEP CADMIUM	<500 UG/L
TEP CHROMIUM	<2500 UG/L

Page 2
Sample no. 86-2034
Date 6/03/86

PARAMETERS

RESULTS

TEP MERCURY

<100 UG/L

TEP LEAD

<2500 UG/L

TEP SELENIUM

<2500 UG/L

PCB-1016

< 1.0 ug/Kg

PCB-1221

< 1.0 ug/Kg

PCB-1232

< 1.0 ug/Kg

PCB-1242

< 1.0 ug/Kg

PCB-1248

< 1.0 ug/Kg

PCB-1254

< 1.0 ug/Kg

PCB-1260

< 1.0 ug/Kg

LABORATORY SERVICES PROGRAM
RESULT OF SAMPLE ANALYSIS

Sample No. 86-2035

Reported to: SAM BRENNEKE
Affiliation: EER

Date: 7/17/86
Project Code: 3535/3000

Sample Description:
ANSCHUTZ MINING CO.
WATER SAMPLE FROM DRAINAGE OFF SITE

Collected by: SAM BRENNEKE
Affiliation: EER

Date: 02/25/86

PARAMETERS	RESULTS
TOTAL SILVER	10 UG/L
TOTAL ARSENIC	19 UG/L
TOTAL BARIUM	<100 UG/L
CYANIDE	<0.05 MG/L
TOTAL CADMIUM	10 UG/L
TOTAL CHROMIUM	<5UG/L

Page 2
Sample no. 86-2035
Date 7/17/86

PARAMETERS

RESULTS

TOTAL MERCURY

<0.5 UG/L

TOTAL LEAD

140 UG/L

TOTAL SELENIUM

<5UG/L

PCB-1016

< 1.0 ug/L

PCB-1221

< 1.0 ug/L

PCB-1232

< 1.0 ug/L

PCB-1242

< 1.0 ug/L

PCB-1248

< 1.0 ug/L

PCB-1254

< 1.0 ug/L

PCB-1260

< 1.0 ug/L